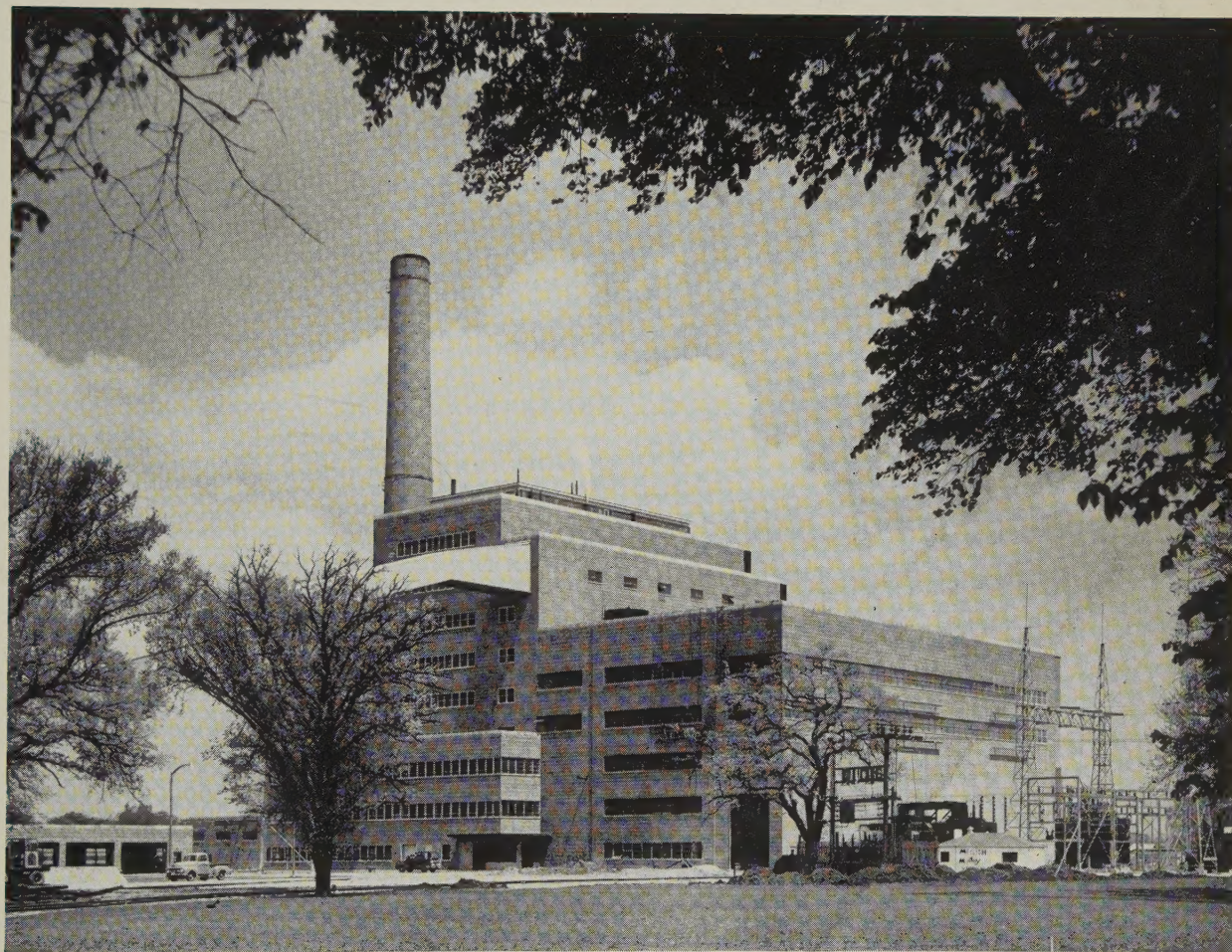




the
**ILLINOIS
ENGINEER**



Operation, "Three by One" in this issue.



HENNEPIN POWER STATION—ILLINOIS POWER CO.
(See page 2)



THE ILLINOIS ENGINEER, OCTOBER, 1953—VOLUME XXIX, NO. 10

Address all communications to the Society at 631 East Green St., Champaign, Illinois.
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ILLINOIS ENGINEER: W. A. OLIVER, Editor-in-Chief; H. E. BABBITT, Associate Editor

Of Professional Interest

THE ILLINOIS ENGINEER—THIS MONTH

N.S.P.E. Dues Increase (Continued)

Your 1954 bill for N.S.P.E.-I.S.P.E. dues which will be in your hands sometime in early December will show a total of \$20.00 instead of \$17.00 as in past years. This is due to the fact that the National Board of Direction at Daytona Beach authorized a \$3.00 increase in annual dues to National—\$10.00 to National and a continuing \$10.00 to the I.S.P.E., total \$20.00.

Is the increase justified? We maintain that it is. Much has been said of the many N.S.P.E. projects, important to the welfare of the engineering profession, which are lagging because of inadequate funds. We do not consider it necessary to review those projects and their purposes here. We only consider it necessary to remind you that the N.S.P.E. is the one engineering society standing for a unified profession whose whole program is for the purpose of improving the "social and economic welfare" of the engineer in every branch of his calling. It is obvious that self interest dictates that such a society should have our full support in every phase of its activities.

W. A. OLIVER, Editor

THE NEW MEMBERSHIP DIRECTORY

(Prepared by ROB ROY, Member N.S.P.E.)

The recently issued 1953 directory of the Illinois Society of Professional Engineers, dedicated to Jacob A. Harman, will live as a written testimonial to one whose services to the professional engineer and his organization in Illinois for the past sixty-four years is without parallel. His membership included six years in the office of secretary, one year as President of the Society, and many, many years of service as chairman or member of a long list of committees. It is indeed an honor for the organization to have such a member as Jacob A. Harman.

The Illinois Society of Professional Engineers is also honored in the presentation of the 1953 Directory by the eighteen Asphalt Paving contracting companies' contributions for the expense of publishing the book. Without exception, these eighteen companies, either the owners of the companies or members of the executive staff, are members of the Society. Their prompt favorable reply to a single-page letter of suggestion sent them, is an exceptional example of loyalty to and confidence in the officers and members.

Both of the above illustrations are a medium of encouragement for the future of the Illinois Society of Professional Engineers. "The acorns were planted and today we are privileged to admire the sturdy oak branching out in every way." In a like manner a much-needed organization for the advancement of the engineering profession has grown.

PRESIDENT'S MESSAGE

"Operation Three by One" is the name we could apply to the simple membership campaign being introduced in this issue of the "Illinois Engineer"—a membership campaign whereby each member contacts three prospective members. (See center spread).

I believe every member of our Society joins with me in the sincere hope that the Society's growth will be tremendous, as a result of this plan.

Let us not forecast—let us produce, by tendering membership into the Society to those of kindred interests. No finer opportunity designed for the betterment of the individual could be proffered to a non-member. If he possesses the necessary qualifications, he will strengthen the Society, as he himself becomes stronger.

We have been operating in a "future" for too long a time. At this very moment, a plan is before us which offers a personal contact with a prospective member. Perhaps it is that fellow-engineer who has again and again deferred the achievement of full professional status by failure to join our Society; or, perhaps, it is that fellow-engineer who has never been approached and who does not understand the objectives of our Society.

To each of you I say—"Three by One." Would that produce the membership goal for which I have been striving since becoming your president? Fast calculation tells me it would—and then some!

RAYMOND G. BRICHLER,
President, I.S.P.E.

When a man has not a good reason for doing a thing, he has one good reason for letting it alone.

—Thomas Scott

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READ THE ADVERTISEMENTS

SUBSCRIPTION RATES

\$2.00 per year in advance to members of the Illinois Society of Professional Engineers. \$4.00 per year in advance to non-members in U.S.A. and possessions, Canada, and Mexico. Foreign \$6.00. Single copies 40c.

Published by the Illinois Society of Professional Engineers, Inc., at 631 East Green Street, Champaign, Illinois.

Entered as Second Class Matter April 27, 1949, at the Post Office, Champaign, Illinois.

OFFICIAL I.S.P.E. NOMINEES FOR 1954-55

In accordance with the provisions of the Constitution of the Illinois Society of Professional Engineers, the nominating committee submits the name of C. W. Klassen, Springfield, for President, and Dwain M. Wallace, Peoria, for Vice President.

Committee { G. E. EKBLAW
V. E. GUNLOCK
A. D. SPICER, Chairman

SIXTH ANNUAL TRAFFIC CONFERENCE

The Sixth Annual Illinois Traffic Engineering Conference will be conducted at the campus of the University of Illinois at Urbana on November 3 and 4. The conference is sponsored by the Department of Civil Engineering of the University, the Illinois Division of Highways, The Illinois Municipal League, and the Midwest Section of the Institute of Traffic Engineers.

All municipal organizations are being urged to send at least one representative to the meeting.

Separate "classroom" type sessions will be held for officials of limited traffic experience, thus enabling them to better understand the basic techniques of successful traffic operation.

Requests for additional information may be addressed to R. K. Newton, Supervisor, Engineering Extension, 713½ South Wright Street, Champaign, Illinois.

COST OF LIVING INDEX

The correction factor to be applied to the I.S.P.E. Schedule of Minimum Fees and Salaries was 191.8 for July, 1953. The factor is based upon the U. S. Department of Labor's most recent Consumer Price Index.

**CLAY PRODUCTS ASSOCIATION
PUBLISHES PAMPHLETS**

The Clay Products Association has just published three pamphlets to help win public support for adequate sewerage systems or sewage treatment plants.

Colorfully designed, the pamphlets are written with the individual home-owner in mind. They show him how it is to his self-interest to vote for an efficient sanitary sewerage system. The pamphlets are planned to help city officials explain the benefits of community-owned sanitary facilities.

No mention is made of any company or product in these folders. The pamphlet fits readily into a small envelope for easy mailing with water, light, gas or tax bills or other city business. Those responsible for the promotion of sanitary sewers can obtain free copies of these folders by writing to the Clay Products Association, 100 North LaSalle Street, Chicago 2, Illinois.

A laugh is worth a hundred groans in any market.

—Lamb

COVER PICTURE

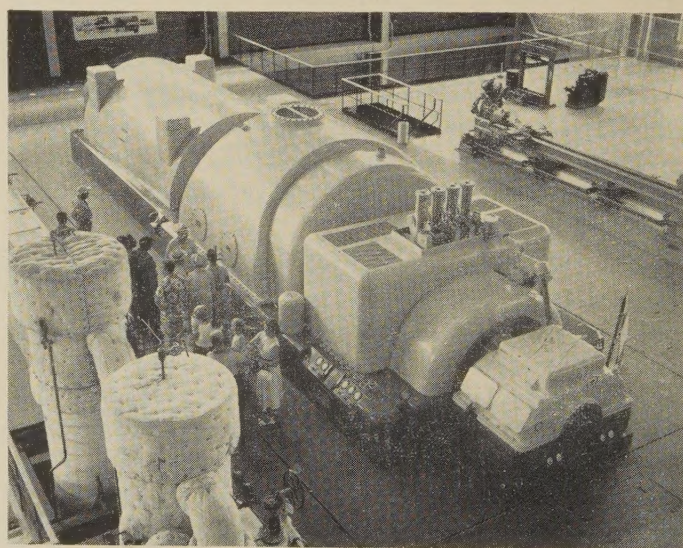
The picture on the cover of this issue is of the new Illinois Power Company station at Hennepin.

The new Hennepin Power Station is the third built since the start of the Illinois Power Company construction program initiated in 1944. This station is the newest link in the Company's generating and transmission system which supplies electric energy to a large and important section of Illinois.

The site for the Hennepin Station was selected because of the availability of an almost inexhaustible supply of Illinois coal; the tremendous quantities of water needed for condensing steam were available from the Illinois River; and the location fitted into the Company-wide plan of electric energy generation and distribution.

Construction was started in May, 1950, after more than a year had been spent in planning, designing and building the various pieces of equipment which comprise the complete installation. The first generating unit at Hennepin has a capacity of 75,000 KW and is capable of producing more than double the actual electrical requirements of the Ottawa-LaSalle-Spring Valley area. It is the very last word in reliability and modern design. (See cut.)

A number of I.S.P.E. members are employed by the Illinois Power Company and we are glad of this opportunity to show something of the accomplishments of their organization. The photographs were made available through the efforts of L. C. Auby, Member N.S.P.E., and H.D. Hewey, Sales and Advertising Manager, both of the Illinois Power Company staff.



75,000 KW Turbine-generator

I hold every man a debtor to his profession;
from the which as men of course do seek to receive
countenance and profit, so ought they of duty
to endeavor themselves by way of amends
to be a help and ornament thereunto.

Sir Francis Bacon

ENGINEER FRANK B. "POPS" DOYLE ANNOUNCES NEW TYPE TRANSMISSION FOR DIESEL POWERED UNITS

(Prepared by K. AUSTIN JEWELL)

Engineer Frank B. Doyle, P.E., Chicago Chapter, I.S.P.E., who recently resigned after more than five years as Director of Research of the Guardite Corporation of Chicago, and a member of their Board of Directors (a position which he held for the past three years), has done it again in a new mechanical development.

Engineer Doyle's most recent invention and development since he left Guardite last June, and which he has been perfecting during his spare time for several years, is his Diesel Air Pneumatic Transmission for locomotives, tugboats, shovels, winches, or any device driven by a diesel engine which requires variable speed, torque and reverse motion. His high standard of development work is in this new type transmission as it is in the more than eight major mechanical and electrical apparatuses he now holds patents on. He is now putting the finishing touches on this apparatus at his home in Raymond, Illinois, where those interested can contact him.

Former Research Director Doyle, while with Guardite, developed the basic equipment required by the Pressure-to-Vacuum process for making puffed cereals, and quick-cooking cereals. As Doyle said, "There wasn't any Handbook information on this one." This means that he really wrote the book here.

Mr. Doyle has had many years of experience in engineering development as well as teaching in both the electrical and mechanical fields. We congratulate him on his latest achievement.

FRANK W. EDWARDS ACCEPTS NEW POSITION

The Stanley Engineering Company opened Chicago offices at 409-10 of the Utilities Building, 327 LaSalle Street, Chicago 4, Illinois, on August 1, 1953 for the purpose of providing improved consulting engineering services to industrial and other clients in the Chicago area. The main office will continue to be located in Muscatine, Iowa.

Mr. Frank W. Edwards will be in charge of the Chicago office. Since 1948, Mr. Edwards has been director of Civil Engineering at the Illinois Institute of Technology. On temporary leave, he was general manager of the Centennial of Engineering held in Chicago in 1952. Prior to his association with the Illinois Institute of Technology, his experience included teaching at Carnegie Institute of Technology and at Pennsylvania State College and a number of years with the United States Engineers with major responsibility on design of civilian and military projects. He is the author of a number of engineering articles. Mr. Edwards is a member of the American Society of Civil Engineers and is president of the Illinois Section. He also belongs to the American Society of Mechanical Engineers, Western Society of Engineers, and is a member and past president of the Chicago chapter of the Illinois Society of Professional Engineers.

PRESTRESSED CONCRETE DESIGN SHORT COURSE

The Portland Cement Association is pleased to announce that a short course on prestressed concrete design is being planned for Chicago area architects and engineers this fall.

It is planned to have one lecture each week for a period of five weeks. Meetings will be held in the Portland Cement Association auditorium, 33 West Grand Avenue, 7:00 p. m. Final information on the night you should attend will be forwarded to you.

Additional information may be obtained by addressing a request to W. W. Wallace, District Engineer, P.C.A., 111 West Washington St., Chicago 2, Ill.

A DREAM, A SONG, A PRAYER

By D. B. STEINMAN

A bridge of strength and grace in mystic blend
Embodies spirit treasures that transcend
The steel and stone. The buider's dream is there,
Each curve a song, each soaring line a prayer.
A dream, a song, a prayer—these three combine
To make the bridge a beacon and a shrine.

So with our lives, O Builder of our Span
Help us to weave these strands into Thy plan
In threefold blend: a dream to point the goal;
A song to lift the heart; a prayer, the soul!
Grant us these gifts of love, or life is bare;
Give us a dream, a song, a thankful prayer!

Obituary

George H. Squires, 60, of 382 N. Worth Avenue, Elgin, Illinois, the Design Bureau Chief of District No. 1, Illinois State Division of Highways, died Saturday, August 15, 1953, at 3:00 a. m. in Sherman Hospital, in Elgin.

Mr. Squires was born in Brattleboro, Vermont, on July 24, 1893, and following his graduation from the schools of that community, attended Norwich University at Northfield, Vermont, graduating from there in 1918.

He served overseas as a lieutenant with the 316th Engineers of the 91st Division in World War I. For the last 34 years he has been a resident of Elgin and an Engineer with the Division of Highways, serving in the capacity of Construction Engineer, Assistant District Engineer, and as Design Engineer.

He was a member of the First Baptist Church, Monitor Lodge 522 A. F. and A. M. He was a registered Professional Engineer, a member of DuKane Chapter of the Illinois Society of Professional Engineers, the Illinois Association of Highway Engineers, American Society of Military Engineers, and Elgin Post No. 57 of the American Legion.

His friends in the Society note with regret the death of their fellow-member.

Operation, "Three by One"

PRESIDENT BRICHLER'S MEMBERSHIP DRIVE

(Prepared by P. E. ROBERTS)

President Raymond G. Brichler announced his membership campaign, which will put an application blank for membership in the Illinois Society into the hands of prospects, at the September 16th meeting of Lake County Chapter in Waukegan. The plan proposes that you mail your copies of the ILLINOIS ENGINEER for November, December and January to prospective members. It further proposes a follow-up in the form of a postal card enclosed in the November issue to be returned to the State Office containing the names of the prospects to whom the magazine is mailed. To be successful, the full cooperation of every member of the Society is necessary. The plan received the enthusiastic support of the Board of Direction at its October 10th meeting. Your help and assistance is the keynote of the success of the plan. Five minutes of your time might help sign up one new member. With a thousand members cooperating, there will be 3000 application blanks in the hands of prospective members by the first of February. But YOUR cooperation is extremely important—do your bit.

The Brichler Plan

Three issues of the ILLINOIS ENGINEER for the months of November, December and January will be prepared, with informative material as to the need, the organizational set-up, and activities of the Illinois Society.

1. Each of the three monthly issues will include:
 - (a) an easily removable membership application blank which will be self-addressed and can be either self-mailed or enclosed in an envelope with check for dues payment.
 - (b) instructions advising the solicitor-member about substituting the prospective member's name and address and stamp and mailing.
2. The November issue will contain a self mailer postal card for the recording of the three prospect names to which the three issues of the ILLINOIS ENGINEER is to be sent. This card when filled out will be mailed to the State office for the follow-up.

The three issues of the ILLINOIS ENGINEER will be the regular copies that each member receives, that is, the particular copies of November, December and January. Each member will send his copy of the magazine (after he reads it) to each of three prospects whom the member feels is qualified to belong to the National and Illinois Societies. The purpose of requesting help from the membership is two-fold: first, the budget does not permit a large, expensive campaign; and second, a prospect list from the grass roots should be highly selective. Members who keep a file of their ILLINOIS ENGINEERS may have a second copy by addressing a request to the Executive Secretary.

The Timetable

The November issue of the ILLINOIS ENGINEER will be received by the members on the 17th of the month. Not later than the 28th of November, the member is requested to do two things, namely, first write the name and address of each of the three prospective members on the self mailer postal card enclosed in the issue and mail and second, ink out his name and address on the cover of the ILLINOIS ENGINEER, write in the first prospect's name, place a 3c stamp near the new name and drop in the mail box. If you prefer, write the name and address on the magazine and hand it to your prospect. When the December and January issues reach you, all that is necessary is for you to ink out your name, and place the second name on the December issue, the third name on January issue and mail.

Instructions in the three issues of the magazine will ask that the prospective member fill out and mail the application blank to the State office as soon as possible.

If by a predetermined date the application is not received by the State office, the chapter membership chairman will be notified in order that he can have a member of his committee make a personal follow-up. Chapter membership chairmen will be notified in each Friday's mail concerning the applications received by means of the Membership Situation as is now being done.

The follow-up call on the prospective member by Chapter Membership Committeemen is a most important step in the campaign. The call should be made during the same week the name is received. The receipt of the ILLINOIS ENGINEER by the prospect is the introduction, however, the sale must be closed in most cases by a personal call.

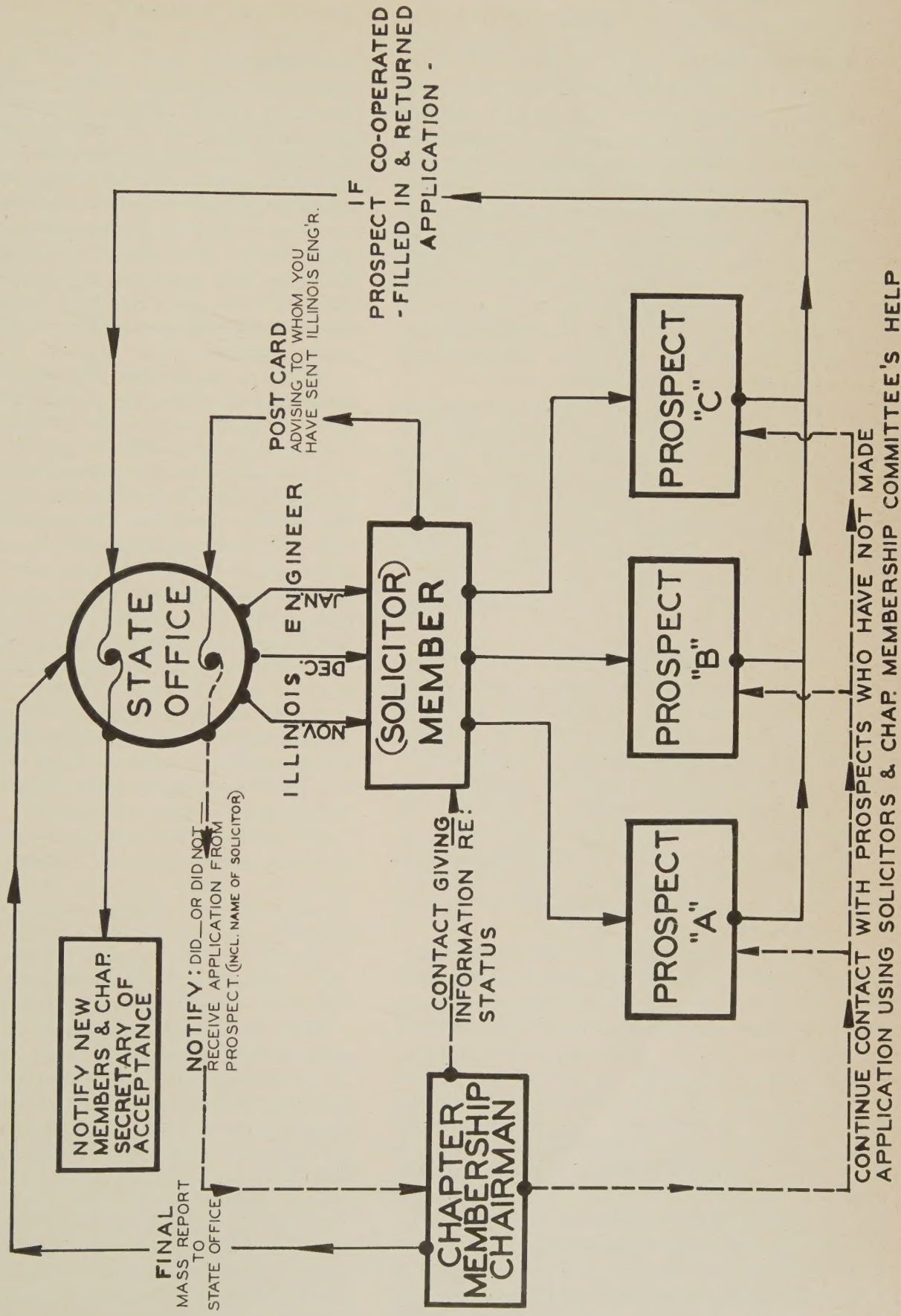
How well the members are cooperating with their part of the campaign can be readily checked by the number of postal cards returned to the State Office giving names and addresses of prospects. Every member's cooperation is the keystone of the entire campaign. Your step is the beginning of action and since such a small effort is requested on your part, only five minutes of your time, the Officers and the Executive Committee feel that you will want to do your share to make the plan succeed. Please follow instructions and help yourself, your Chapter and your State to reach the goal. Look for the November issue of the ILLINOIS ENGINEER—*Do Your Little Bit More.*

See the Flow Chart of the Membership Campaign Procedure on the facing page.

ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, INC.

- MEMBERSHIP CAMPAIGN -

1953 - 54



NATIONWIDE ASPECTS ENGINEERING REGISTRATION—

RUSSELL G. WARNER, Past President NCSBEE

From Registration Bulletin

Who Is An Engineer?—You may say he is one who utilizes the materials and forces of nature for the benefit of mankind. This, however, is not specific enough to be used as a legal definition. We find the esteem of the engineer so high that many non-engineers desire to be included in our profession. You can all cite examples of capable technicians who wish to be classified as engineers. Then you will find others with broader imaginations, as the advertising engineer, the fund-raising engineer, or the exterminating engineer. A few years ago I noted an advertisement for ladies' undergarments which were beautifully engineered.

The wide variety of services rendered by engineers makes an inclusive definition rather cumbersome. The definitions in the several states vary somewhat. In general they specify that the engineer through his special knowledge of the physical and mathematical sciences applies engineering principles and data in planning or designing for the accomplishment of special objectives. However, it now becomes evident that only the registered engineer can represent himself as a professional engineer.

Why Should the Engineer Be Registered?—Primarily registration is to protect the public. So much of the work of the engineers affects the safety and health and the property of the public that the state has exercised its police power limiting the practice of engineering to those who are registered. By prescribing minimum standards for registration of engineers, incompetents are not even permitted to offer to practice engineering.

This situation obtains in other professions such as architecture, medicine, dentistry or nursing. The police power of the state is used to protect the public from quacks, or incompetents.

From the standpoint of the individual engineer, registration differentiates him from the person not qualified to use the name of the professional engineer. It is of interest also that the Supreme Court of Pennsylvania has ruled that a bill for engineering services was not valid to a person not registered as an engineer, as such work was in violation of the law. Again it has been stated that if a fatal accident should occur through a faulty engineering design, an unregistered man who made such faulty design could be prosecuted for manslaughter, whereas a registered engineer under the same circumstances is merely guilty of an error in professional judgment. In some courts the unregistered person has been disqualified to present testimony on engineering matters.

How Does Registration Affect the Profession?—Registration protects the qualified engineer by restricting the competition of the incompetent. The eminent engineer does not feel the need for legal registration, yet

some of our most prominent engineers have promoted this movement for the good of the profession.

Since registration specifies minimum standards for the profession, the profession has a responsibility and an opportunity to devote more attention to doing a better job. If we properly conduct ourselves both professionally and ethically we will merit greater confidence by the public. This means opportunities for service with resulting recognition as a profession. Incidentally, such recognition will aid the individual engineer economically as well as in prestige. In fact, the achievements of engineers, both in World War II and in the present period of defense, have raised our professional status to new heights. We must be willing to apply our special knowledge and ability to guide and serve the public in engineering matters.

When Did Registration Start and What is the Present Status?—Wyoming was the first state to pass a registration law. This was in 1907. The next year Louisiana followed with a law requiring registration of civil engineers. In spite of considerable opposition the movement has spread to include the entire area of the United States and its three territories. The opposition came largely from within the profession, which is not surprising. Engineers do not like regimentation, and registration does mean another limitation. Some of the branches of engineering, where the members were largely employees of manufacturers, were quite active in opposing the registration movement. A real question was presented as to whether the public needs protection from an employee of a manufacturing company. However, in most states the engineer in responsible charge of engineering work for a manufacturer must be registered; in other states most of the responsible engineers are registered even though there is no legal requirement.

It should be pointed out that a few of the state laws originally applied only to civil engineers and in one state, mining engineers were excluded. In most cases these laws have been changed to include all professional engineers. Montana is now the only state restricting registration to civil engineers. In one state, Massachusetts, registration is permissive; even so as of June, 1951, there were 5,898 registrants in that state.

What is the Attitude of the Major Engineering Societies Toward Registration?—Forty years ago, none of the engineering societies unqualifiedly favored registration. In 1911 the American Society of Civil Engineers prepared a model law for civil engineers in case a law was to be considered, yet it did not recommend that any law be enacted. Some of the other societies expressed definite opposition. As the years passed the architects were making progress in passing registration laws in several states. Gradually one engineering group after another cooperated in guiding registration movements and in preparing revisions of the model law. The latest draft of the model law, reprinted in 1949, was approved by thirteen national societies. Further, most of these national societies have standing committees on registra-

tion and several of the societies regularly participate in the financial support of the National Council of State Boards of Engineering Examiners.

It is of interest that some of the national societies now recognize registration as one criterion in the qualifications for member grade. Another major contribution of the engineering societies has been through the work of the Engineers' Council for Professional Development. All of the committees of E.C.P.D. are working for the improvement of our profession. The Committee on Engineering Schools has established standards for our engineering schools and a list of almost 700 accredited curricula is used by practically all of the state boards as their approved list.

What Are the Requirements for Registration?—Educational background, practical experience and character are requisites for engineering registration.

An engineer must have acquired an education equivalent to that obtained by a graduate from an approved engineering curriculum. In addition practical experience of a character satisfactory to the Board is required. Usually a minimum of four years of such experience is specified. Qualifying experience develops mature and seasoned judgment as a result of progressive responsibility in engineering work.

As there are forty-eight state boards, three territorial boards and a board for the District of Columbia, each working under its specific law, there are many variations in the requirements and administration of the laws. Most boards check the quality of the education and the competency of applicant by written examinations.

Why Isn't Registration on a National Basis?—Registration is legally established as a function of the police powers of the individual states. It is one of the state's rights which is still cherished. Similarly the registration or licensing of other professions is by the states. However, the need for uniformity in the several states has been recognized.

Thirty-two years ago the then existing state boards formed a voluntary council "to promote the public welfare through efficient administration of State Engineering Registration Laws, by facilitating interstate registration of engineers and by defining and maintaining national qualifications for registration." This National Council of State Boards of Engineering Examiners now consists of fifty-two autonomous boards. Through its several committees and by the discussions at its meetings it has been effective in increasing uniformity of thinking and procedures among the members of the member Boards. The National Council recommends procedures and policies but each Board must function under its own state law and is not bound by any action of the National Council.

In order to facilitate registration of an engineer in several states the National Council has established a National Bureau of Engineering Registration. The Bureau is made up of State Board members in various parts of the United States and on its Advisory Boards are repre-

sentatives of the major engineering societies. This Bureau meticulously checks the records of the applying registered engineer and carefully reviews the experience record. If the engineer meets the requirements a Certificate of Qualification and Verified Professional Record is issued. This is not a nation registration but the Certificate may be submitted to any state board to which the applicant is applying for registration. Inasmuch as the standards of the Bureau are high, most of the state boards accept the Bureau certification as competent evidence but not the only evidence to be considered for registration in a particular state. It is a great help in expediting interstate registration by engineers whose practice covers a number of states.

What Has the Engineer-in-Training to do With Registration?—The engineering graduate or equivalent upon passing a state board examination covering the fundamentals of engineering is certified as an engineer-in-training. More than half of the states so certify engineers-in-training as a step toward professional registration. This step provides a neophyte engineer with a definite tie to his profession and serves as a credit toward part of the requirements for registration. The final step would come after four or more years of qualifying experience. This step stimulates a professional consciousness shortly after graduation and should help the individual to feel that he is part of the profession.

What of the Board Members?—It is fortunate that the policing of the profession is by members of the profession; others would not be qualified. In general Board members are appointed by the Governor. In many of the states, the statute requires that the selection be from a list submitted by the Engineering societies; in other states, selections are usually taken from such a list. The members of each Board as a group must have a very broad experience reaching into the various branches of engineering. Many of the Boards have five members including a Civil, an Electrical and a Mechanical Engineer. For some states it is important to have a Mining Engineer or a Chemical Engineer on the board.

It has been my privilege to work with many of the 300 Board members in the National Council. These include deans of engineering and other eminent engineers. Their interest in the welfare of our profession is evident in all discussions.

The many hours and many years devoted to the administration of the engineering registration laws may not be realized by most of us. The National Council does recognize a Board member who has served twenty years by a Distinguished Service Certificate. To date thirty-eight engineers have been so honored.

What is Being Accomplished Through Registration?—Registration of the qualified engineer and prohibition of the incompetent from the use of the name of engineer, protects the public and at the same time improves the standing of the profession.

Promotion of registration has stimulated joint action of the technical societies; this in turn promotes a

professional consciousness. This professional consciousness has greatly stimulated the desire for less fragmentation and greater unity in our profession.

Acknowledgment and Conclusions—In the 1933 Proceedings of the Connecticut Society of Civil Engineers there is a paper by George A. Orrok on "The Registration of Engineers and Architects." He discussed the controversial aspect of registration but urged its enactment in Connecticut. For those interested in more background on our professional registration I would recommend a book by Dean Nathan W. Dougherty of the University of Tennessee on "Engineering Registration," published last year. In the seventy-odd pages he has given a commendable scholarly summary of this movement and has related it to the registration in other professional fields.

In closing I would emphasize that your certificate of registration is a symbol which gives you the legal status for the practice of your profession. Hold high your ethics and the competence of your practice, that these be on a plane to do honor to the symbol, to the profession and to yourself.

FROM N.S.P.E. LEGISLATIVE BULLETIN

End of First Session?

Although Congress has adjourned *sine die*, it is by no means certain that the 1953 session is concluded. President Eisenhower's last minute request to raise the debt limit passed the House but was shelved in the Senate. The President, in bowing to this decision, announced that he might consider it necessary to call a special session this Fall if the September tax collections do not indicate that the government can pay its bills until the end of the year without piercing the present debt ceiling of \$275 billion. If a special session should materialize, it might well go beyond the single subject of the debt limit and plunge into some of the mass of legislation which was left at the time of adjournment. Some legislators, in fact, feel that a Fall session would be wise in any event in view of the heavy burden of unfinished business awaiting Congress next year—an election year when the call to return home early for the mending of political fences is strong.

As usual, the final days of the first session were hectic and witnessed the passage of much legislation which had dragged for months. Nevertheless, most of the items of particular interest to the engineering profession were passed over for future action. This report covers the status of those items as well as a summary of other engineering-interest matter which were acted upon in the recent session.

Social Security Coverage

Two days prior to the close of the session, President Eisenhower announced the administration plan for expansion of coverage under the social security system, in

order that the proposal might be studied during the adjournment and acted upon early next year. The administration program calls for mandatory inclusion of the now-exempt self-employed professional groups, including professional engineers, and the addition of state and local government employees already under a state or local retirement system, on a voluntary group basis. The social security subcommittee of the House Ways and Means Committee expects to open extensive hearings on the proposed changes early this November. In order to ascertain the position of N.S.P.E. on the inclusion of self-employed P.E.'s, a poll is being taken through the September issue of the *American Engineer*. N.S.P.E. has already announced in favor of adding the state and local employees and for including the self-employed group on a voluntary basis. The President's message, however, states the administration position for mandatory coverage. Other aspects of social security changes, such as raising the amount which a retired individual may earn without loss of retirement benefits, and increasing the benefits generally, are not covered in the President's message. These other considerations are now under study and will be the subject of later recommendations, it was stated.

An important point in the administration plan for the self-employed to consider in determining their wishes on coverage is that if coverage is provided the three lowest years of earnings will be dropped in computing benefits. Under the present law, benefit payments would be computed on the average monthly income from January, 1951 to the date of retirement, resulting in a lower average monthly income for those not covered in 1951, 1952, and 1953. By dropping out the lowest three years, the average monthly income would actually be based on income for 1954 and thereafter, resulting in maximum benefits if \$3600 was earned each year.

Representative Daniel A. Reed, Chairman of the House Ways and Means Committee, has introduced the legislation to carry out the President's program but has reserved the right to offer alternative proposals after the hearings are completed. (H.R. 6812).

Taft-Hartley Changes

The important facts on revision of the Taft-Hartley Act, outside of rumors, were the extensive hearings conducted by the Senate and House Labor committees and the President's "message" on suggested revisions which was never officially transmitted, but which "leaked" to the press. During the hearings, N.S.P.E. testified in favor of continuing the present professional provisions of the law and urged an amendment to encourage "freedom of association" for professional personnel. A bill by Representative Carroll D. Kearns of Pennsylvania (H.R. 5504) was introduced to carry out this suggestion. The Freedom of Association Bill will be considered by the committee next year along with many other suggested changes in the law. The primary deterrent to action this year on Taft-Hartley changes was the lack of

a specific policy from the administration. On the last day of the session, a "message" from the President was published by a prominent newspaper containing 19 specific recommended revisions in the labor law, but the White House denied that the published message was in final form and stated it had merely been circulated to certain key members of Congress as a "working draft." The reported changes were largely in the direction of easing the law's application to labor organizations and the first reaction of influential legislators was that if the published version actually represented the President's thinking he would have a difficult time in obtaining congressional approval. Presumably, the draft is being reconsidered and the picture on the changes which will be requested remains considerably clouded.

Niagara Power and Seaway Decisions Put Off

After sailing through the House, the legislation to permit five private power companies to develop the Niagara Falls power project hit a snag in the Senate committee and final action was delayed until the next session. The strong opposition of Governor Thomas E. Dewey of New York, who favors the development by New York State instead of private companies, was almost solely responsible for the delay. Governor Dewey challenged the constitutionality of the measure on the ground that the waters of the Niagara belong to the people of New York State and denied that state development would be "creeping socialism."

In line with the policy favoring development of natural resources by private enterprise, N.S.P.E. informed the Senate Committee of its support of the private company legislation.

Meanwhile, the Federal Power Commission formalized its decision to permit New York State to develop the hydro-electric power potential of the International Rapids Section of the St. Lawrence Seaway. Legislative action on the building of the Seaway, however, was another item which did not receive final action. Senator William F. Knowland, Republic Majority Leader, said that in view of the controversial nature of the question it would not be called up until next January at the earliest.

Technical Aid to Small Business

An item of interest which did receive final action was the legislation abolishing the RFC and establishing a Small Business Administration. The new agency is authorized to make loans to small businesses up to \$150,000 to each applicant. A revolving fund of \$275,000,000 was authorized for this purpose. Of primary interest to the engineering profession, however, is the provision for furnishing technical and managerial aids to small business concerns. This is to be done "by advising and counseling on matters in connection with Government procurement, and on policies, principles, and practices of good management, including but not limited to cost accounting, methods of financing, business insurance, acci-

dent control, wage incentives and methods engineering, by cooperating and advising with voluntary business, professional, educational, and other nonprofit organizations, associations and institutions and with other Federal and State agencies, by maintaining a clearinghouse for information concerning the managing, financing, and operation of small-business enterprises, by disseminating such information, and by such other activities as are deemed appropriate by the administration."

This authority generally follows previous federal policy of supplying general assistance to small business in an informational way, but without engaging in direct research efforts on behalf of individuals or firms.

Tax Legislation

The legislation to provide a change in the tax laws so self-employed persons may be able to set aside a tax-free portion of their income each year for retirement purposes, reached the hearing stage during the first session, but it was indicated that it will be acted upon only in connection with a number of other suggested tax law changes next year. Under the legislation, which N.S.P.E. is supporting, a self-employed individual could deduct up to 10% of his income for payment into a social retirement fund to be drawn upon on a taxable income basis at the age of 65. In an appearance before the House Ways and Means Committee, N.S.P.E. stated that the establishment of private retirement plans, paid for out of current earnings, would appear to be the logical resolution of the situation faced by the self-employed who do not have either social security retirement coverage or pension arrangements commonly provided by industry. "But the harsh fact is that the present high tax rates, which the experts assure us will not be substantially reduced in the foreseeable future, do not leave the average self-employed professional person enough to cover living costs and a residue for the relatively high payments which are required for an acceptable private pension plan," N.S.P.E. testified.

Another tax law change which N.S.P.E. also supported would permit professional persons to deduct, as business expenses, sums paid for improving professional qualifications through special courses or graduate study. In supporting this legislation, N.S.P.E. told the committee that while businessmen may deduct expenses incurred in improving their products, professional persons, such as engineers, who are a vital part of the industrial improvement process, may not deduct expenses for studies which are necessary to assure technical competence and improvement. "This condition is certainly not conducive to the encouragement of additional study at their own expense by individual engineers and scientists as well as by other groups," it was stated. "If such educational expenses were clearly deductible for income tax purposes, many more persons would be encouraged to undertake graduate study and special courses of higher instruction and thus contribute, not only to their own knowledge, but to that of the entire country."

FOR STATES' RIGHTS

No other item so fully spells control of the citizen as does the extent of his taxes. The body which has the greatest claim on your taxes simultaneously and synonymously has the greatest claim on you, the citizen.

Accordingly, in 1932, most of us, nationally, paid less taxes to the federal government than we did to the state, but today, in the year 1950, we stand ready to turn over to the federal government some 45 billions as against approximately 9 billions for state taxes, a ratio of 5 to 1. That all too simple switch in the figures plainly describes the control our centralized governing body is taking over us.

True, the war must be paid for, but we're paying for it at a snail's pace. Retirement of the war debt is a poor second in a contest with so-called necessary bureaucratic spending. Not enough people are awake to the fact that high taxes are growing higher principally because the federal government is selling us increasing doses of benefits which "no one else could provide as well." Lest we run the danger of losing many personal liberties to an all-powerful central government, let us inspect the advantages to be gained by tipping the scales more in favor of our state governments.

To take an example: Decentralization is held to be good for industry and is being strongly urged upon it. One reason given, namely greater safety from attack during wartime, is a valid one, but the industrialist can furnish at least one other excellent reason for decentralization. That reason is that greater efficiency can frequently be achieved by permitting various divisions or departments to take relatively independent action.

It is a custom now to have the various departments within a plant operating on a budget. Budgets call for close scrutiny of operations and money outlays by responsible supervisors. Along with departmental budgets often-times divisional accounting departments are set up close to the field of operations so that accountants, thoroughly versed in the work at hand, can keep an accurate check on the pulse of operations.

Can't we make use of these proven principles by applying them to government? Who could be better versed in a state's potato surplus than the state itself? Give the problem to Washington and you wind up with no domestic potatoes for Wisconsin's consumers, top grade potatoes ending up in Kansas caves, and the local taxpayers paying price supports to Maine farmers who have more potatoes than anybody else you care to mention. Grandiose plans can be grandiose flops. Wisconsin farmers are beginning to see the handwriting on the wall and would like to free themselves from Washington's paternalism, but the grip already is very tight.

America's Dairyland has plenty of milk its citizens would like to use at lower prices, but again, Washington knows better. The price must be supported ever higher. Thus our federal government, which for years condemned international cartels, now condones what in ef-

fect are interstate cartels at the expense of every one of us.

Economic problems within a state belong to the state and can be handled very well by the state, either alone, or in conjunction with any other adjoining states which comprise certain particular economic blocks. The more we bring solution of economic problems down to the state level, the better able will we be to understand and to cope with the problems.

We owe allegiance to the United States of America, yes. But the Union is composed of the several states and these states have rights, rights which today are being turned over by default. It should not be necessary for a citizen to be subjected to a dual tax inquisition by both federal and state governments. It should suffice that a state government collect the levy from its own citizens, pay the cost of its own operations, and turn over as much of the balance as is needed on a quota basis for the operation of the federal government. Flexible state taxes applied to areas of differing economic conditions would be more fair than one inflexible federal tax applied to all economic areas. Corporations and other business institutions engaged in interstate trade could continue to pay the federal levy similar to the present one.

Many avenues of approach are possible. The novelty of certain ideas should not scare us. The important thing is that we stop overcentralization of government which today in this and in many other countries is crystallizing into nothing less than socialism. John T. Flynn in his recent best selling book "The Road Ahead" gives a vivid picture of what has happened to the British in their blind acceptance of socialism. The same end is in the cards for us and the process in which we have become involved is dangerously close to culmination.

Strangely enough, Thomas Jefferson foresaw the potential weakness in the organization of our central government, but alas, his voice came from only a very small minority at the time. These words of Jefferson gain new and firmer meaning with every passing day: "Our country is too large to have all its affairs directed by a single government. Public servants at such a distance, and from under the eye of their constituents, must, from the circumstances of distance, be unable to administer and overlook all the details necessary for the good government of the citizens; and the same circumstance, by rendering detection impossible to their constituents will invite the public agents to corruption, plunder, and waste."

And in recent times, Al Smith, in his campaign platform, insisted that "bureaucracy and the multiplication of offices" are "an instrument of State power." He demanded that "the constitutional rights of the states be preserved."

Clearly these warnings call upon us to carefully circumscribe the powers of the central government and to give vigorous, active emphasis to the rights the privileges of the States of the Union.

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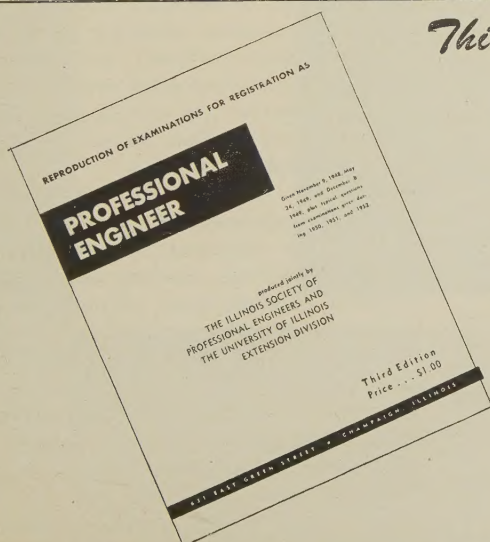
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RECEPTIONIST'S CORNER

October is the first month of Fall. The wind is cooler now and the leaves are turning their shades to Red, Yellow, and Brown. This is the time of the year when people have more pep and feel like working.

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Office Engr. C.E. 28. One yr. acceptance and distribution of design prints, expediting, progress and material reports and general office procedure. One yr. field work, preliminary surveys, design checking, financial reports. \$6000. Midwest. 708-PE

Sales Engrg. 34. Five yrs. selling, counseling, and customer contact for photo copy, interior decorating and sponges and chamois equip. \$4800. U. S. 709-PE

Chief Engr. 45. Nine mos. consultant on tooling and machining methods. Many yrs. supervision of design and building of jigs, fixtures, dies, molds, and special machinery. \$10,000. Midwest. 710-PE

Welding Engr. M.E. 28. Three yrs. establish welding procedures for manual and automatic submerged arc production welding, estimating of material and labor cost for incoming work, selection and purchasing of equip. \$6800. Midwest. 711-PE

Sales Engr. E.E. 31. Three yrs. sales engineer contacting industrial concerns for plastics products. One yr. test engineer on traction motors, power transformers, steam turbines and fractional horsepower motors. \$6000. U. S. 712-PE

Plant Engr. M.E. 35. One yr. design of heating, piping, plumbing, ventilation and air conditioning systems. Five yrs. estimating contract costs and supervising installation. Two yrs. asst. resident engr. resp. for mech. equipment erection. Six yrs. as operating engineer. \$7500. South and West. 713-PE

Field Engr. Gen. Eng. 49. Twenty-seven yrs. exp. in construction of projects, bridges, sewage plants, water works and industrial bldgs. Also supervised the estimating and acted as operating head of the company. \$10,000. Chicago. 714-PE

Constr. Supt. C.E. 55. Better than ten yrs. supervising general construction work. 8500. U. S. 715-PE

Soil Mechanics Engr. M.S.I.E. 29. Three yrs. evaluate effectiveness of foundation courses and foundation designs for concrete highways. Two yrs. responsible for constr. and maint. of highways. \$6000. Midwest. 716-PE

Constr. Supt. C.E. 29. Twenty-eight mos. seismograph surveyor. Twenty-one mos. supervise construction of highway projects. \$5000. Chicago. 717-PE

Factory Mgr. 50. Twenty-two yrs. motor background, responsible for operation of winding, sub-assembly, and final assembly depts., hiring and all personnel matters. Two yrs. resp. for all inspection functions, including installation and operation of statistical quality control methods. \$9500. U. S. 718-PE

POSITIONS AVAILABLE

Divisional Superintendent—Some engrg. required. M.E. or E.E. preferred. Age: 35-50. 10 yrs. exp. as superintendent in machining of large castings and fabrication. Knowledge of milling, boring, planning, etc., operations. Duties: supervision of machine division involving about 300 workers. Complete responsibility for all production operations on machining of castings. For a manufacturer of large electric motors. Sal.: \$8000-\$10,000. Employer will pay fee. Loc.: Midwest. C-1267(a)

Methods Engineer. M.E. pref. Age: 35-45. 10 yrs. exp. in heavy equipment such as Diesels, cranes, farm machinery, road machinery. Knowledge of tooling, estimating problems. For a manufacturer of heavy equipment. Sal.: Around \$8400-\$9000. Employer will pay fee. Loc.: St. Louis. C-1267(b)

Senior Project Engr. M.E. Age: 30-40. Exp. as project engineer in smaller medium size mech. items such as typewriters, duplicating machinery, addressographs, etc. Must have administrative exp. also or capability. Duties: work on machine projects in development liaison work for head of engineering. Some administrative duties. Excellent opportunity. For a manufacturer of mech. equip. Sal.: \$75-\$10,000. Employer will pay fee. Loc.: Chicago area. C-1267(c)

Production Manager. Education: open. Salary: open. 5-10 yrs. exp. in production mgmt. and supervision. Production control

desirable. Knowledge of methods and tooling. Duties: to supervise production, department employing 40-70 women assembling tools and motors. Plan production scheduling methods. For a manufacturer of electric tools. Sal.: \$500-\$600 per month. Employer will negotiate fee. Location: Grays Lake. C-1269

Design and Develop. Engr. Mech. M.E. or B.S. Age: 28-40. Min. 5 yrs. exp. engrg. major home appliances or similar products for quantity production. Knowledge: basic engrg. design, mfg. operations, tolerances, finishes, etc. Electrical knowl. helpful. Duties: man with initiative, ability to supervise self and take responsibility. Work with both engrg. and shop people. Design, development related to home laundry appliances. Salary: \$500-\$650. Employer will negotiate fee. Occasional traveling. Location: Iowa. C-1272(b)

Machine Shop Supervisor. M.E. Deg. Age: 32-45. 10 yrs. exp. in machine shop supervision production control. Salary: \$10,000 to \$15,000. For a foundry and machine shop. Employer will pay fee. Location: Chicago. C-1273

Senior Physicist. M.S. or Ph.D. Physics. 5 plus yrs. exp. in fields of measurement of temperature, pressure, flow and/or viscosity. Knowledge of industrial or process controls. Duties: development and research work on controls and instrumentation for industrial and process plants. For a manufacturer of appliances. Sal.: \$486-646. Location: Minnesota. C-1274(a)

Development Engineer. E.E. 6 plus yrs. exp. in design, development, and pilot production of electrical, electronic or electromechanical devices. Duties: development of controls and instrumentation devices for appliances, industrial and process plants. For a manufacturer of appl. Salary: \$456-646. Loc.: Minnesota. C-1274(b)

Development. M.E. or E.E. 4 plus yrs. in design or development of special packaging for electronic equipment. Duties: supervise packaging problems, covering heat transfer, vibration isolation, shock resistance, miniaturization, hermetic sealing and cooling. For mfg. of appliances. Sal.: \$486 to \$646 mo. Loc.: Minnesota. C-1274(c)

Designer. E.E. 4 plus yrs. exp. in design radar or microwave equipment. Duties: design electronic equipment and instruments. Will also consider 2 yrs. exp. Sal.: \$392-646 dep. on exp. For mfr. appliance. Location: Minnesota. C-1274(d)